

REMARKS

Claims 1 through 18 remain pending in this application. In response to the Office Action of August 27, 2003, amendments have been made to the abstract and title. A petition for extension of one month of the period for response, and appropriate fee charge authorization, are filed herewith. Care has been taken to avoid the introduction of new matter. Objections have been made to the title and abstract. In response, the title has been changed as suggested in the Office Action and the abstract has been streamlined to a single paragraph. Withdrawal of the objections is believed to be appropriate.

Claims 1 through 10 have been rejected under the first paragraph of 35 U.S.C. § 112. The Office Action states that “there is no structure of circuit diagram [in Figs. 5A or 5B] provided to teach a person of ordinary skill how the modulation depth is set or adjusted [as recited in claims 1 and 6].” Reconsideration is respectfully solicited.

The invention as claimed in claims 1 and 6 is directed to an optical transmitter having an optical amplifier as a portion thereof. As described in the paragraph bridging pages 5 and 6 of the specification and the following paragraph, such transmitter can send a high-power signal light to the transmission line. As recognized in the Office Action, Figs. 5A and 5B depict an optical transmitter that includes an amplifier 13. By this basic structure, the waveform degradation of signals, due to influence of dispersion in the transmission line, can be effectively suppressed. Modulation depth and the calculation thereof were well-known at the time the invention was made as discussed, for example, in the publication by Dennis Derickson, “Fiber optic test and measurement”, Hewlett-Packard Professional Books, 1998, pp. 247, 265. OMD (Optical Modulation Depth) is the ration of modulation power to average power. It is submitted that it would have been well within the capabilities of a person of ordinary skill in the art to set

the amplification appropriately to meet the range recited in claims 1 and 6. Withdrawal of the rejection is thus believed to be appropriate and is respectfully solicited.

Claims 1 through 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 6,252,692 (Roberts). Roberts discloses an optical amplifier (2) that is separated from the optical transmitter (1) through the optical fiber in several drawing figures. Fig. 5 does not show an optical amplifier. Further, Roberts assumes the optical fiber connected to the output terminal of the optical amplifier (1) as a 100-km length single mode fiber (see column 9, lines 43-44). Therefore, it is clear that the optical amplifier (2) is not a part of the optical transmitter (1). From the description of column 1, lines 44-50 of Roberts, the optical amplifier (2) would be used in a repeater. Considering this structure, the signals outputted from the optical transmitter (1) must propagate to the optical amplifier (2) through the optical fiber transmission line, and therefore the waveform degradation of signals cannot be avoided. On the other hand, the optical transmission system of Roberts includes, in order to cancel the dispersion in the optical transmission line, means for measuring dispersion and a controllable element such as a dispersion compensator (see abstract). Roberts clearly teaches that the main object of the adjustment of the amplitude modulation is to achieve a compromise between the required measurement accuracy and the minimization of undesirable effects (see column 9, lines 35-38). Indeed, Roberts teaches the adjustment of dither modulation depth, but it does not teach or suggest the adjustment of modulation depth rate at the input and output terminal sides of the optical amplifier. As the optical amplifier (2) is separated from the optical transmitter (1) by the optical fiber transmission line, it is submitted that the Roberts' adjustment is clearly distinguished from the claimed rate adjustment.

As independent claims 1, 6, 11 and 15 all require that the optical transmitter include an optical amplifier, it is believed that all pending claims 1 through 18 are patentably distinguishable. Accordingly, allowance of the application is respectfully solicited. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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